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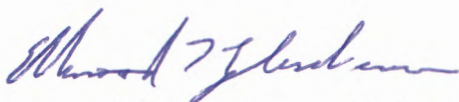
Department of Energy

memorandum

Richland Operations Office

DATE: JUN 09 2015
REPLY TO
ATTN OF: AMRP:ETG\15-AMRP-0218
SUBJECT: MISCELLANEOUS RESTORATION REPORT FOR 100-F/IU-2/IU-6 AREA –
SEGMENT 3
TO: Memo to File

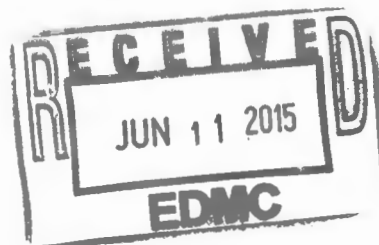
The purpose of this memo is to transmit the subject document to the Administrative Record. If you have any questions, please contact me at (509) 376-5828.



Ellwood T. Glossbrenner, Project Lead
for the 100 Area Field Remediation

Attachment

cc w/attach:
Administrative Record, H6-08



Miscellaneous Restoration Report for 100-F/IU-2/IU-6 Area - Segment 3

**Prepared for the U.S. Department of Energy
by Washington Closure Hanford**

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The approval signatures on this page indicate that this document has been authorized for information release to the public through appropriate channels. No other forms or signatures are required to document this information release.

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ACRONYMS AND ABBREVIATIONS

CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>
DOE	U.S. Department of Energy
ERDF	Environmental Restoration Disposal Facility
MR	miscellaneous restoration
RCCC	River Corridor Closure Contract
RL	U.S. Department of Energy, Richland Operations Office
SIS	Stewardship Information System
WCH	Washington Closure Hanford

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This document summarizes the miscellaneous restoration (MR) activities that were performed by Washington Closure Hanford (WCH) within the 100-F/IU-2/IU-6 – Segment 3 Area (Figure 1). The coverage for the Segment 3 area includes approximately 9,908 ha (24,483 ac).

Miscellaneous restoration activities involve removal and disposal of materials from the River Corridor lands that have the potential for contamination with *Comprehensive Environmental Response Compensation and Liability Act of 1980* (CERCLA) hazardous substances. WCH has implemented the MR work scope within the River Corridor Closure Contract (RCCC) in two distinct components: (1) large-scale features, and (2) small, isolated, scattered debris. The large-scale features typically consist of engineered features that extend into multiple areas of the Hanford Site. These include abandoned railroad lines, abandoned above-grade utilities, and abandoned fencing. The small, isolated, scattered debris typically consist of nonhazardous surface debris that is identified during orphan sites evaluations and includes items such as concrete debris that stands out above the natural terrain, empty drums, large stockpile areas of wood and debris, transite piping, and isolated piping. Other non-CERCLA debris is documented and identified as stewardship elements as a part of the orphan sites evaluation processes. Stewardship elements include items such as glass, electrical components, metal, wiring, wood, etc. General trash/garbage and small, isolated pieces of debris are scattered throughout the Hanford Site and are not typically recorded as either MR or stewardship elements.

1.2 REMOVAL REQUIREMENTS

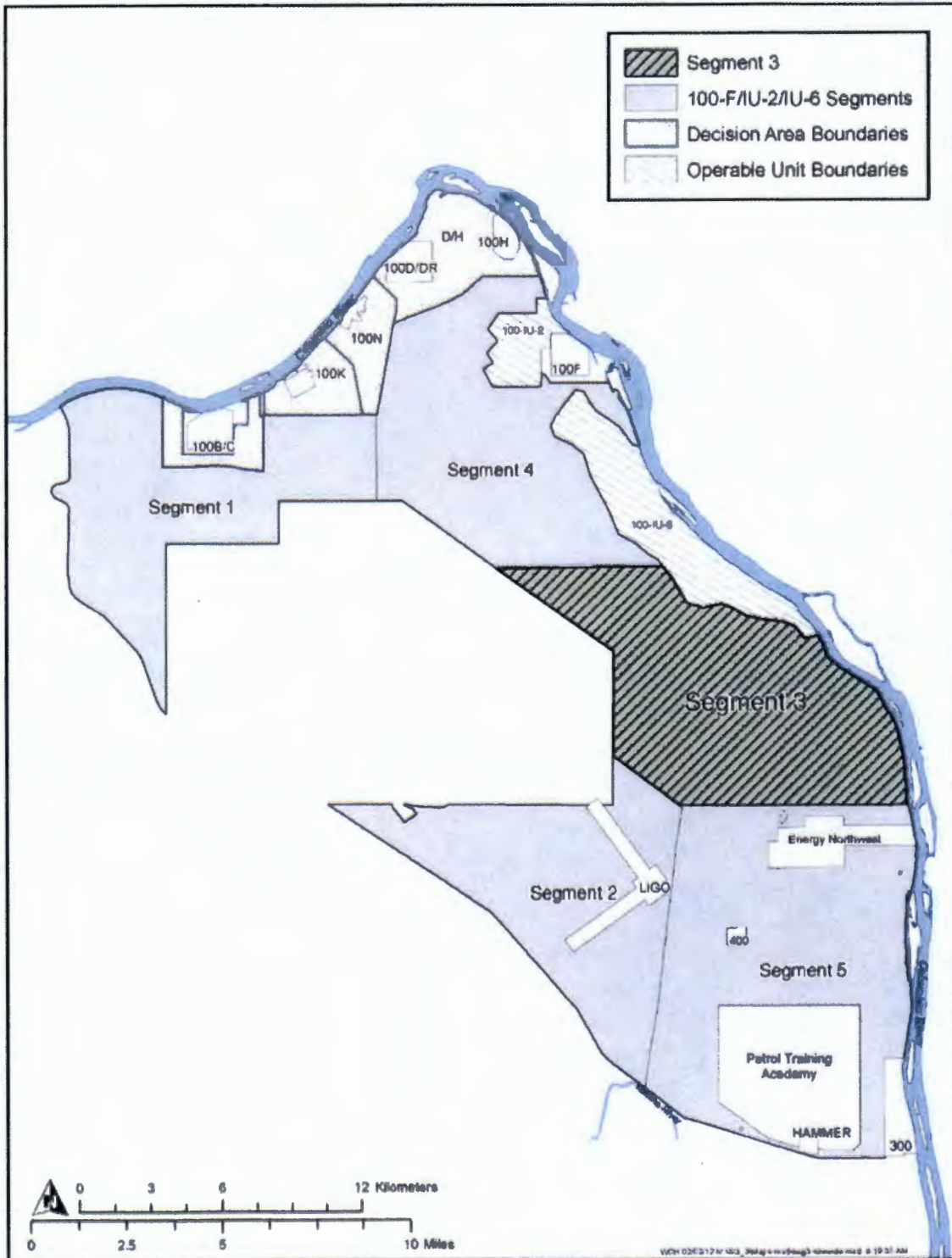
Removal and disposal of miscellaneous items to support site completion was selected in the *Action Memorandum for General Hanford Site Decommissioning Activities* (DOE/RL-2010-22) and is further described in Sections 2.5 and 2.6 of DOE/RL-2010-34, *Removal Action Work Plan for River Corridor General Decommissioning Activities*. As specified in the work plan, debris will be removed from any given area using industry standard methods (e.g., front-end loaders, dump truck). Completion documentation for removal and disposal of miscellaneous debris is required to be documented in a report and to include a description of the work performed, quantity of material removed and disposed, and cost information.

1.3 HISTORICAL ACTIVITIES

Segment 3 is part of the 100-F/IU-2/IU-6 geographical area within the River Corridor that does not contain any documented historical reactor/operational areas (OSR-2010-0004, *100-F/IU-2/IU-6 Area - Segment 3 Orphan Sites Evaluation Report*).

Historical activities that occurred within this area prior to 1943 (pre-Hanford) were limited, as indicated by a small number of debris features and two concrete structures that may have been associated with livestock activity. No apparent farming (i.e., row crops and orchards) occurred in this area, probably due to poor soil conditions, which primarily consist of loose dry sands associated with dune formations that are prevalent in Segment 3.

Figure 1. 100-F/U-2/U-6 Geographical Areas.



No railroad features were located in Segment 3 prior to 1943; a railroad line was constructed through Segment 3 after 1943 to support Hanford operations. Segment 3 also does not contain any areas of past military activity. Figure 2 shows an overview map of Segment 3.

The Segment 3 area also includes a portion of land that is designated as part of the Hanford Reach National Monument. This area is referred to as the Columbia River Corridor Unit in the *Hanford Reach National Monument Final Comprehensive Conservation Plan and Environmental Impact Statement* (USFWS 2008). This strip of land includes an area approximately 0.4 km (0.25 mi) inland from the Columbia River shoreline that makes up the eastern boundary of Segment 3 as well as over 2,430 ha (6,000 ac) of the Hanford Dunes.

1.4 KEY TERMS AND DEFINITIONS

100-F/IU-2/IU-6 Area Segments: The portion of the 100-F/IU-2/IU-6 geographical area that excludes the **reactor/operational areas**. The five segments consist of more than 49,410 ha (122,000 ac).

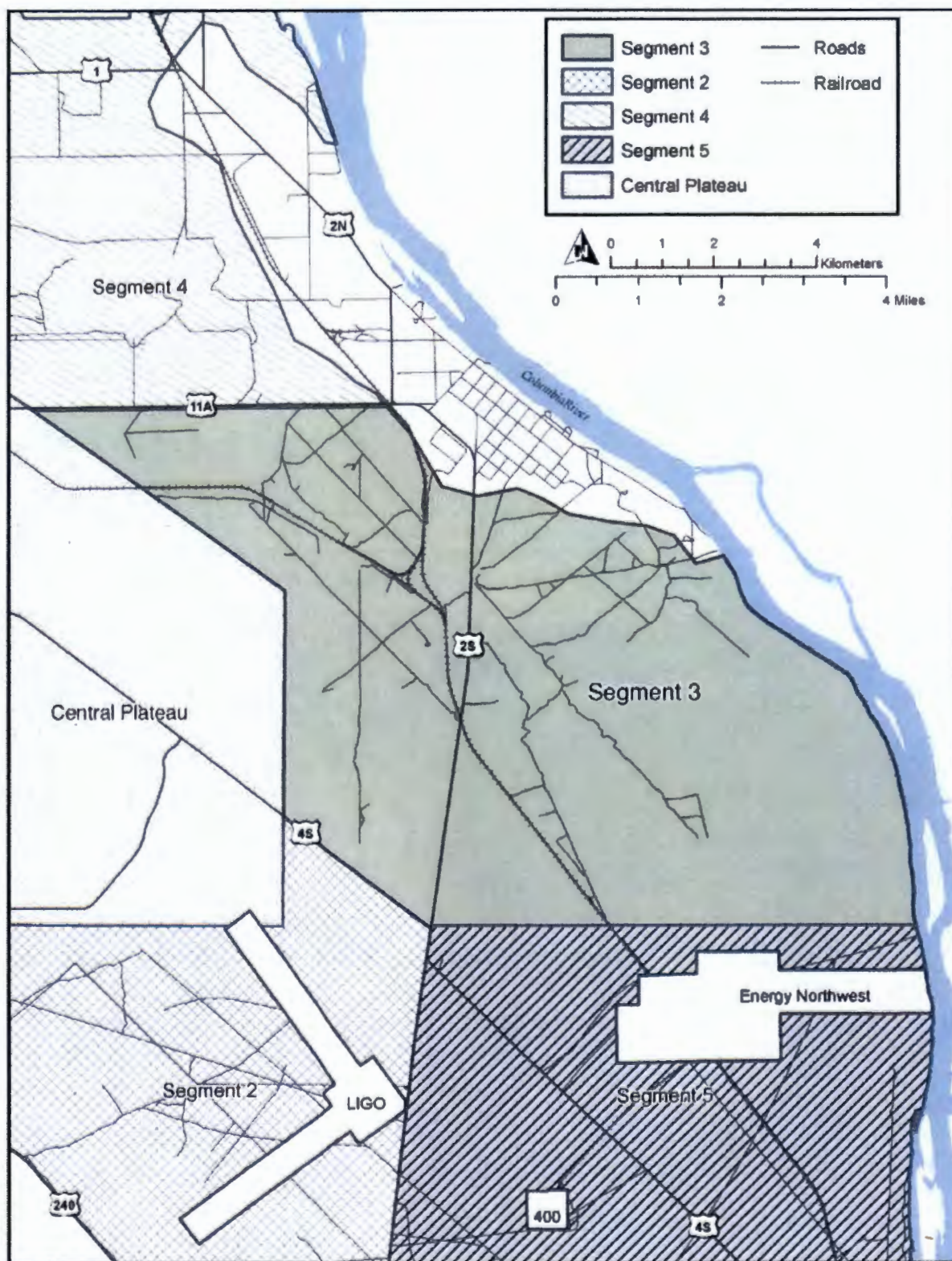
Miscellaneous Restoration (MR): An RCCC scope element that includes removing abandoned railroad lines, abandoned above-grade utilities, abandoned fences, and surface debris such as concrete that are not otherwise addressed by the CERCLA decision documents and that are considered contaminated or potentially contaminated with CERCLA hazardous waste. All below-ground debris and structures are excluded from the MR scope. MR also excludes de minimus volumes of non-CERCLA debris (small scattered nonhazardous surface debris).

Orphan Sites Evaluation: A systematic approach involving historical review and field investigation activities to identify new source unit waste sites within the **River Corridor** that are not identified for characterization or cleanup within the existing CERCLA decision documents. Results of each orphan sites evaluation are presented in a summary report including a description of the process and a listing of identified **orphan sites**. Listings of **MR** items and **stewardship elements** that are captured during the course of the evaluation are also included in the summary report. Orphan sites evaluations are performed for the **reactor/operational areas** and for the **100-F/IU-2/IU-6 Area segments** of the **River Corridor**.

Reactor/Operational Areas: The primary activity areas within the **River Corridor** that supported the Hanford Manhattan Project and subsequent Hanford Cold War era. An **orphan sites evaluation** is conducted for each identified reactor/operational area including the 100-B/C, 100-D, 100-F, 100-H, 100-K, 100-N, 100-IU-2, 100-IU-6, 300, and 400 Areas. Collectively, the reactor/operational areas consist of approximately 6,880 ha (17,000 ac).

Stewardship Elements: Manmade features, items, or activity areas within the **River Corridor** that (1) do not meet the Tri-Party Agreement TPA-MP-14 criteria for waste site identification (RL-TPA-90-0001), (2) are not part of **MR** scope, and (3) are anticipated to remain after completion of the RCCC. Examples may include, but are not limited to, groundwater wells, building foundations, and physical hazards. Stewardship elements also include unsubstantiated historical research artifacts that were investigated.

Figure 2. Segment 3 Coverage Area.



Stewardship Information System (SIS): A WCH relational database consisting of four components: waste sites, facilities, MR items, and stewardship elements. The SIS is a primary WCH resource for capturing information in support of closure for River Corridor waste sites, facilities, reactors, miscellaneous debris items, and stewardship elements.

2.0 MISCELLANEOUS RESTORATION ACTIVITIES

The following section describes the activities performed in Segment 3. Specific summary reports regarding individual MR debris item removal, including photographs, are accessible from the WCH SIS database.

2.1 SEGMENT 3 MISCELLANEOUS RESTORATION

A total of 15 MR surface debris items were removed from Segment 3 in June 2011, as identified in Table 1 and shown in Figure 3. Although 17 items were initially identified as part of the orphan sites evaluation process and documented in OSR-2010-0004, two of the items (SG3-076 and SG3-077) were subsequently determined not to require removal so that impacts to habitat as a result of removal activities could be avoided. The final list of MR debris items identified for removal was provided in correspondence from WCH to the U.S. Department of Energy (DOE), Richland Operations Office (RL) (Letter 156406, "Identification of Segment 3 Miscellaneous Restoration Items"). The RL concurred with the list of MR debris items in a follow-on letter (Letter 157121, "Contract No. DE-AC06-05RL14655 – Washington Closure Hanford LLC [WCH] Identification of Segment 3 Miscellaneous Restoration Items").

A total of 26.6 US tons of debris were removed from various locations within Segment 3 and disposed of at the Environmental Restoration Disposal Facility (ERDF) in June 2011. The sites were backfilled and/or regraded and revegetated in November 2011, as necessary. Only two sites, SG3-075 and SG3-147, required revegetation. It was determined by the WCH Environmental Services group that revegetation activities at the other MR sites would create more negative impacts than what currently exists.

No other large-scale features such as railroads or utilities were identified for removal.

Table 1. Segment 3 Miscellaneous Restoration Debris Items. (2 Pages)

Orphan Site Evaluation Identification ^a	Date Removed (mo/yr)	Description	Debris Quantity (US tons)
SG3-023	June 2011	A 100-m-long stand of fence used potentially for weed and sand control	26.6 ^b
SG3-045	June 2011	Metal gas cylinder rack with a concrete base (1 x 2 m concrete base x 1.5 m high) and some wood debris	^b

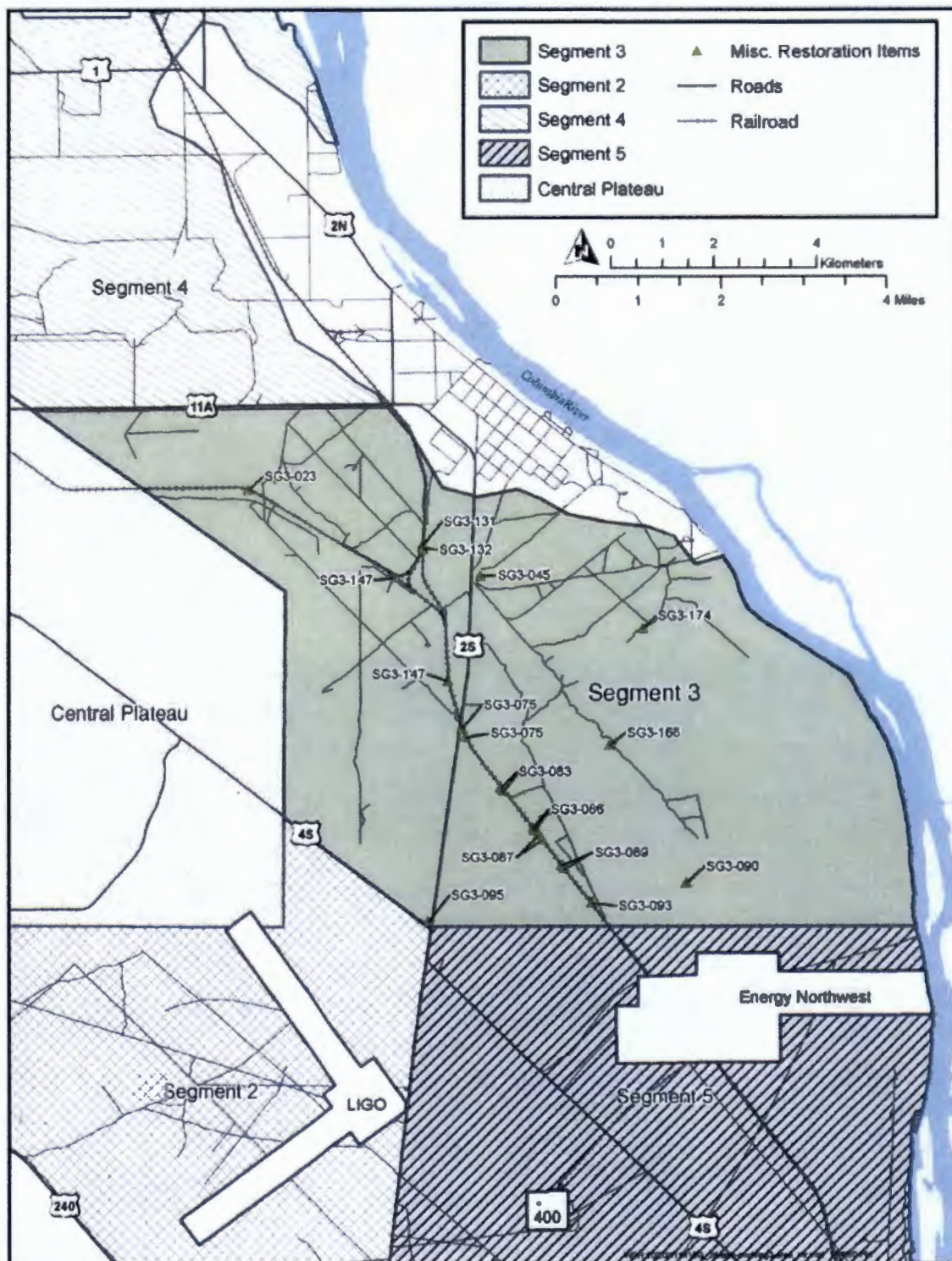
Table 1. Segment 3 Miscellaneous Restoration Debris Items. (2 Pages)

Orphan Site Evaluation Identification ^a	Date Removed (mo/yr)	Description	Debris Quantity (US tons)
SG3-075	June 2011	185-m wooden drift fence	^b
SG3-083	June 2011	75-m-long drift fence constructed of railroad ties, T posts, and wood lathe skirting	^b
SG3-086	June 2011	60-m-long drift fence constructed of railroad ties, T posts, and wooden lathe skirting	^b
SG3-087	June 2011	120-m-long drift fence constructed of railroad ties, T posts, and wooden lathe skirting	^b
SG3-089	June 2011	75-m-long drift fence constructed of railroad ties, T posts, and wooden lathe skirting	^b
SG3-090	June 2011	Concrete pad, electrical panels, and conduit in a 5-m-diameter area for what appears to have been an air monitoring station	^b
SG3-093	June 2011	A 208-L (55-gal) empty drum	^b
SG3-095	June 2011	85 m of coiled ABS hose 6.4-cm diameter	^b
SG3-131	June 2011	Crushed 208-L (55-gal) drum	^b
SG3-132	June 2011	60 m of fence constructed of metal T posts and wooden lathe meshing	^b
SG3-147	June 2011	A 6 km (1.4 mi) incomplete drift fence including railroad ties and the rolls of lathe skirting	^b
SG3-166	June 2011	A 1-m-diameter fiberglass tube that appears to have fallen from a truck or blown in	^b
SG3-174	June 2011	Electrical debris lying next to road consisting of conduit with wires and a box; 3 m long total	^b

^a Source from OSR-2010-004, 100-F/1U-2/1U-6 Area – Segment 3 Orphan Sites Evaluation Summary Report.

^b All quantities combined equaled 26.6 US tons.

Figure 3. Location of Miscellaneous Restoration Activities in Segment 3.



3.0 PROJECT COST SUMMARY

This section presents a summary of the project costs associated with the MR removal activities performed in the Segment 3 area. The total cost of work performed for removal and disposal of Segment 3 items was approximately \$23,658. As shown in Table 2, the unit rates for work performed was approximately \$889/US ton.

Table 2. Summary of Miscellaneous Restoration Debris Removal and Disposal Costs for Segment 3.

Debris Area	Waste Disposal Weight (US tons)	Removal (\$K)	Waste Disposal (\$K)	Total (\$K)	Average Cost (\$/US ton)
Segment 3	26.6	23.1	0.6	23.7	\$889

The cost data are intended to represent the fully burdened cost for the work performed, including all applicable direct and indirect overhead charges. Data presented in this summary include project costs for removal and loadout, waste transportation and disposal at the ERDF, and backfill and revegetation costs (where applicable). Costs include fully burdened labor, equipment and materials, and subcontract services. The cost data do not include costs associated with removal action work plan document development, detailed designs, or subcontract package development.

Details for the ERDF transportation and disposal costs provided in Table 2 are based on an average unit rate of \$22.51/US ton. Debris disposal weight is based on weights obtained from the WCH Waste Management Information System.

4.0 REFERENCES

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601, et seq.

DOE/RL-2010-22, 2010, *Action Memorandum for General Hanford Site Decommissioning Activities*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

DOE/RL-2010-34, 2010, *Removal Action Work Plan for River Corridor General Decommissioning Activities*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

Letter 156406, 2011, "Identification of Segment 3 Miscellaneous Restoration Items," External Letter to J. J. Short, U.S. Department of Energy, Richland Operations Office, from S. L. Feaster, Washington (Closure Hanford, Richland, Washington, February 16).

Letter 157121, 2011, "Contract No. DE-AC06-05RL14655 – Washington Closure Hanford LLC (WCH) Identification of Segment 3 Miscellaneous Restoration Items," external letter to M. N. Brosee, Washington Closure Hanford, Richland, Washington, from J. J. Short, U.S. Department of Energy, Richland Operations Office, March 8.

OSR-2010-0004, 2011, *100-F/IU-2/IU-6 Area - Segment 3 Orphan Sites Evaluation Report*, Rev. 0, Washington Closure Hanford, Richland, Washington.

RL-TPA-90-0001, 2007, *Tri-Party Agreement Handbook Management Procedures*, Guideline Number TPA-MP-14, "Maintenance of the Waste Information Data System (WIDS)," Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

USFWS, 2008, *Hanford Reach National Monument - Final Comprehensive Conservation Plan and Environmental Impact Statement*, U.S. Department of Interior, Fish and Wildlife Service, Burbank, Washington.

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